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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,363

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EXAMINER

HOPKINS, CHRISTINE D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,363	Applicant(s) PITULIA, DAN	
	Examiner CHRISTINE D. HOPKINS	Art Unit 3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed 7 May 2009. Claims 12-30 are now pending. The Examiner acknowledges the amendments to claim 12, as well as the addition of claims 21-30.

Claim Objections

2. Claim 28 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 28 recites a "directional microphone directed in a forward direction" which is also recited in claim 21 as a "forward-directed directional microphone".

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 12-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 12, the term "preferentially" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 21-26, 28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Lenhardt et al. (U.S. Patent No. 5,047,994). Lenhardt et al. (hereinafter Lenhardt) disclose a bone conduction hearing device aided by a vibratory element for transmission of frequencies across the skull. Regarding claims 21-24 and 28, Lenhardt teaches a hearing aid **11** configured to receive sound, having a bone conduction attachment (“skin penetrating member”) **12** which can be embedded in the skull (temporal bone) via a screw or simply attached to the head with a clamping arrangement or headband (col. 3, lines 39-52 and col. 5, lines 26-33). A vibrator of the hearing aid applies vibrations to the skull for bone conduction at varying frequencies (col. 3, lines 39-52). A microphone picks up frequencies of the spoken voice and is considered to be a “forward-directed directional microphone” (col. 3, lines 53-58). Frequencies that are critical for noise detection, such as a “user’s voice” may be preferentially amplified (col. 4, lines 34-38), and signal processing on such sounds by the aid may include filters to reduce surrounding sounds (col. 5, lines 5-14) thus relieving problems associated with stuttering.

In view of claims 25 and 26, Lenhardt teaches an adjustable “delay circuit,” or the signal processing unit since the signal processing unit of Lenhardt amplifies and filters

particular frequencies depending on the individual needs of a user. Some filters utilized will attenuate the signal, thus delaying its arrival to the other ear (col. 4, lines 26-51), which causes confusion and subsequently invokes stuttering.

With respect to claim 30, each ear of the user may receive sound information having different frequencies, such as speech embedded with background noise or the filtering of background noise such that reduction in unwanted sound occurs (col. 5, lines 5-14).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 12-20, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenhardt et al. (U.S. Patent No. 5,047,994) in view of Rastatter et al. (U.S. Patent No. 5,961,443). Lenhardt et al. (hereinafter Lenhardt) disclose a bone conduction hearing device aided by a vibratory element for transmission of frequencies across the skull. Regarding claims 12-14, Lenhardt teaches a method comprising: receiving sound with a bone conducting hearing aid **11** having a bone conduction attachment embedded in the skull (temporal bone) via a screw (col. 3, lines 39-52 and col. 5, lines 26-33). Frequencies that are critical for noise detection, such as a user's

voice, may be preferentially amplified (col. 4, lines 34-38), and signal processing on such sounds by the aid may include filters to reduce surrounding sounds (col. 5, lines 5-14) thus relieving problems associated with stuttering. A vibrator of the hearing aid applies vibrations to the skull for bone conduction at varying frequencies to both inner ears (col. 3, lines 39-52). Each ear of the user may receive sound information having different frequencies, such as speech embedded with background noise or the filtering of background noise such that reduction in unwanted sound occurs (col. 5, lines 5-14), in accordance with claim 20. It is noted, with regards to claim 12, that it is uncertain whether the limitations following the term “preferentially” are part of the claimed invention.

Regarding claim 15, the frequency characteristics of the hearing aid may be adjusted (col. 5, lines 20-24).

With respect to claims 16 and 18, Lenhardt teaches a signal processing unit also interpreted as an adjustable delay circuit, since the signal processing unit of Lenhardt amplifies and filters particular frequencies depending on the individual needs of a user. Some filters utilized will attenuate the signal, thus delaying its arrival to the other ear (col. 4, lines 26-51), which causes confusion and subsequently invokes stuttering.

Regarding claim 17, since Applicant fails to provide a description of “a forward direction,” the microphone of Lenhardt is determined to suppress sounds from other directions than “a forward direction” since amplification of signals at particular frequencies allows the user to sense the direction, distance and speed of particular

sounds (col. 6, lines 64-68). With respect to claim 19, Lenhardt teaches shifting a frequency of the voice of the user fed back to the user (col. 3, lines 53-67).

However, Lenhardt fails to disclose that the method treats stuttering. Rastatter et al. (hereinafter Rastatter) teaches a device and method for ameliorating stuttering by providing an altered auditory feedback to a user. Regarding claims 12-20, Rastatter discloses a frequency shift circuit, used in conjunction with a delay circuit (col. 8, lines 27-37) (also as in the instant application) for returning a feedback signal to the user and for manipulating non-desireable signal distortions (col. 9, lines 27-37). Rastatter further teaches filtering higher frequencies to remove unwanted background noise (col. 7, lines 57-58) and preventing sounds other than a user's voice from being transmitted by the user (col. 8, lines 57-62), both scenarios which can trigger stuttering in an individual. Lenhardt similarly teaches the reduction of noises which would prevent a user from picking up the desired speech or signal (col. 5, lines 5-14). Therefore, at the time of the invention it would have been obvious to one having ordinary skill in the art to have utilized a method for treating stuttering suggested by Rastatter, as a method for improving the hearing of an individual as taught by Lenhardt, since both methods focus on the amplification of speech transmitted to a user and the reduction of unwanted noises received by a hearing aid.

Regarding claims 27 and 29, Lenhardt et al. disclose the invention as claimed, see rejection supra; however Lenhardt fails to specifically teach a frequency shifting circuit. Although, Lenhardt indeed describes a frequency transposition section of the hearing aid (col. 3, lines 61-67). However a specific circuit for controlling such is not

disclosed. Regarding claims 27 and 29, Rastatter discloses a frequency shift circuit, used in conjunction with a delay circuit (col. 8, lines 27-37) (also as in the instant application) for returning a feedback signal to the user and for manipulating non-desireable signal distortions (col. 9, lines 27-37). Therefore, at the time of the invention it would have been obvious to one having ordinary skill in the art to have incorporated a frequency shifting circuit as suggested by Rastatter to a frequency transposition section of a hearing aid as taught by Lenhardt for enabling desired feedback to a user.

Response to Arguments

9. Applicant's arguments filed 7 May 2009 with respect to claims 12-20 under 35 U.S.C. 103(a) as being unpatentable over Lenhardt ('994) in view of Rastatter ('443) have been fully considered and are not persuasive. Applicant contends that the combination of Lenhardt and Rastatter does not disclose a method or device that preferentially picks up sound from a forward direction of a user. However, this argument is not persuasive. As noted above, the term "preferentially" renders the claim indefinite because it is uncertain whether the limitations following the term "preferentially" are part of the claimed invention. Furthermore, the specification is silent with regards to a specific definition for a "forward-directed directional microphone" and therefore the microphone of Lenhardt is considered to be such since it picks up frequencies of a user's voice which is considered to be in the "forward" direction of its location relative to a user's mouth. Applicant further contends that it would not be obvious to combine Lenhardt and Rastatter because Lenhardt suggests a bone-

conducting aid and Rastatter teaches a conventional hearing aid, which will both be installed and operated differently. However, this argument is not persuasive. The devices of both Lenhardt and Rastatter operate in a similar manner as Rastatter teaches filtering higher frequencies to remove unwanted background noise (col. 7, lines 57-58) and preventing sounds other than a user's voice from being transmitted by the user (col. 8, lines 57-62), both scenarios which can trigger stuttering in an individual and Lenhardt similarly teaches the reduction of noises which would prevent a user from picking up the desired speech or signal (col. 5, lines 5-14). In view of the foregoing, the rejection of claims 12-20 under 35 U.S.C. 103(a) as being unpatentable over Lenhardt ('994) in view of Rastatter ('443) has been maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE D. HOPKINS whose telephone number is (571)272-9058. The examiner can normally be reached on Monday-Friday, 7 a.m.-3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. D. H./
Christine D Hopkins
Examiner
Art Unit 3735

/John P Lacyk/
Primary Examiner, Art Unit 3735

